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Maldjian Law Group LLC
36 Bingham Avenue
Rumson, NJ 07760

EXAMINER	
FEARER, MARK D	
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PATENT@MFIPLAW.COM

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SACHIN GARG and MARTIN KAPPES

Appeal 2009-011368
Application 10/662,728
Technology Center 2400

Before JAY P. LUCAS, JOHN A. JEFFERY, and JAMES R. HUGHES, *Administrative Patent Judges*.

JEFFERY, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-10. We have jurisdiction under 35 U.S.C. § 6(b). We affirm.

STATEMENT OF THE CASE

Appellants' invention reduces the likelihood of node congestion in telecommunications networks by dropping certain protocol data units. *See*

generally Spec. ¶¶ 0013-15. Claim 1 is illustrative with key disputed limitations emphasized:

> 1. A method comprising:
>
> receiving a first plurality of protocol data units *at a first input*, *wherein all of said first plurality of protocol data units are en route to a first congestible node*;
>
> maintaining at a protocol-data-unit excisor a first queue for said first plurality of protocol data units;
>
> receiving at said protocol-data-unit excisor a flow control signal that indicates whether said first congestible node is ready to receive one or more of said protocol data units from said first queue; and
>
> selectively dropping, at said protocol-data-unit excisor, one or more of said protocol data units based on a first metric of said first queue.

Related Appeal

This appeal is related to another appeal in connection with Application No. 10/662,724 (Appeal No. 2009-007754) (Br. 5, 21; Ans. 2)—an appeal that has been decided. *See Ex parte Garg*, No. 2009-007754, 2010 WL 5137104 (BPAI 2010) (non-precedential) (reversing Examiner's anticipation rejection over prior art different than that cited in the present appeal).

Cited References

The Examiner relies on the following as evidence of unpatentability:

Erimli	US 6,405,258 B1	June 11, 2002
Barker	US 2002/0131365 A1	Sept. 19, 2002
Muller	US 6,650,640 B1	Nov. 18, 2003 (filed Mar. 1, 1999)
Yu	US 7,031,341 B2	Apr. 18, 2006 (filed Mar. 27, 2001)

THE REJECTIONS

1. The Examiner rejected claims 1, 2, 4-6, and 8-10 under 35 U.S.C. § 103(a) as unpatentable over Muller, Erimli, and Barker. Ans. 3-9.[1]
2. The Examiner rejected claims 3 and 7 under 35 U.S.C. § 103(a) as unpatentable over Muller, Erimli, Yu, and Barker. Ans. 9.

THE OBVIOUSNESS REJECTION OVER MULLER, ERIMLI, AND BARKER

Regarding representative claim 1, the Examiner finds that Muller discloses every recited feature including receiving protocol data units at a first input, where all of these data units are en route to a first congestible node, which the Examiner equates to Muller's Network Interface Circuit (NIC). Ans. 3-5, 10-11. The Examiner finds that Muller does not disclose (1) the node sending a ready to receive signal for protocol data units, and (2) adding a traffic controlling data engine for congestion management, but cites Erimli and Barker to cure these respective deficiencies in concluding that the claim would have been obvious. *Id.*

Appellants argue that neither Muller[2] nor Erimli teach or suggest receiving a first plurality of protocol data units at a first input, where all of these data units are en route to a first congestible node as claimed—a limitation that is said to require only one node. Br. 15. The issue before us, then, is as follows:

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[1] Throughout this opinion, we refer to the Appeal Brief filed April 28, 2008 and the Examiner's Answer mailed July 8, 2008.
[2] Although Appellants refer to this reference as "Miller" (Br. 14-15), we nonetheless refer to this reference by its proper spelling (i.e., Muller) for clarity.

ISSUE

Under § 103, has the Examiner erred in rejecting claim 1 by finding that Muller, Erimli, and Barker collectively would have taught or suggested receiving protocol data units at a first input, where all these data units are en route to a first congestible node?

FINDINGS OF FACT (FF)

1. "[A] 'protocol data unit' is defined as the data object that is exchanged by entities. . . . A 'frame,' a 'packet,' and a 'datagram' are typical protocol data units." Spec. ¶ 0003.

2. "[A] 'congestible node' is defined as a network node (*e.g.* a switch, router, access point, *etc.*) that is susceptible to dropping protocol data units." Spec. ¶ 0008.

3. We adopt the Examiner's factual findings regarding Muller's disclosure as our own. Ans. 10-11.

4. Muller's NIC 100 processes communication packets exchanged between network 102 and a host computer system. A packet may be received at NIC 100 from network 102 by a Medium Access Control (MAC) module that (1) performs low-level packet processing and error checking; (2) detects packet fragments and over-sized packets; (3) removes the layer-one preamble; etc. Muller, col. 1, ll. 50-54; col. 8, ll. 25-39; Fig. 1A. Muller's NIC is detailed in Figure 1A reproduced below:

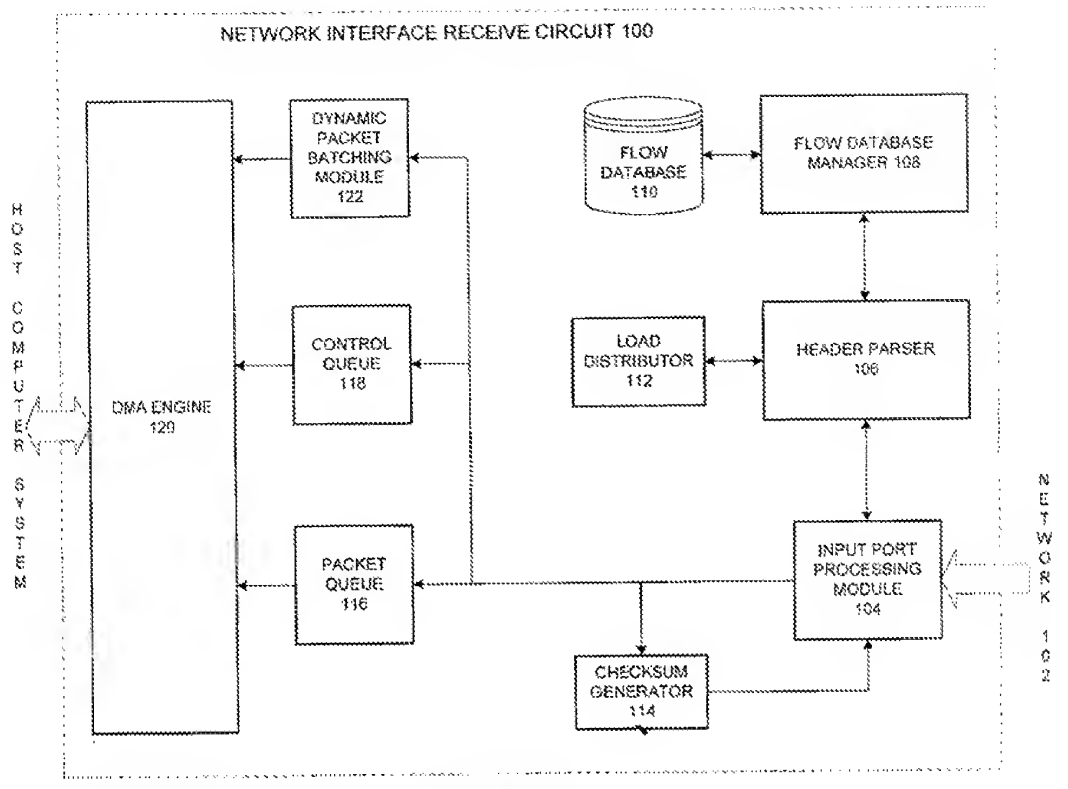

FIG. 1A

Muller's NIC in Figure 1A

5. The NIC's Input Port Processing (IPP) module 104 then receives the packet and stores the entire packet in packet queue 116 as received from the MAC module or network. Also, part of the packet is copied into header parser 106. Muller, col. 8, ll. 40-43; Fig. 1A.

6. Muller notes that in the illustrated embodiment, a communication flow comprises one or more datagram packets from one source entity to one destination entity. Muller, col. 8, ll. 64-66; Fig. 1A.

ANALYSIS

This appeal turns on one question: Does Muller teach or suggest receiving "protocol data units" at a first input, where all these data units are en route to a first "congestible node"? Since the Examiner's reliance on Barker is undisputed (*see* Br. 15), and the Examiner relies on Erimli for another undisputed aspect of claim 1 (Ans. 4), we confine our discussion to Muller.

The Examiner maps Muller's NIC and its modules to the recited "first congestible node." Ans. 10-11. This finding reasonably comports with Appellants' definition of the term, namely a network node (e.g., a switch, router, access point, etc.) that is susceptible to dropping "protocol data units" (e.g., packets). *See* FF 1-2.

Although the Examiner does not squarely identify the "first input" in Muller, the Examiner nonetheless indicates that packets destined for Muller's host computer system must pass through the "congestible node," namely the NIC. Ans. 11. Certainly, the NIC has an input that receives packets; indeed, the large arrow in Figure 1A that points from network 102 to the NIC's input port processing module indicating the flow of data into the NIC confirms this point. FF 4. In any event, Muller's unillustrated MAC module functions as such an input, for it receives packets at the NIC for various processing and error-checking functions before the packets are sent to other NIC modules. *See* FF 4-5.

Therefore, Muller at least suggests that all packets received at the NIC's input are en route *to the NIC* (i.e., the "congestible node") for processing before being sent to their ultimate destination, namely the host

computer. *See* FF 4. That Muller indicates that packets flow from one source entity to one destination entity (FF 6) only bolsters this conclusion.

To the extent that Appellants argue that Muller routes packets to more than one congestible node, and not "exactly one node" (Br. 15), is not only unsupported on this record, but is not commensurate with the scope of claim 1. Although the claim recites that all received protocol data units are en route to "*a*" first congestible node, that hardly means that they must be routed to *only one* such node. *See KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000) (noting the indefinite article "a" or "an" means "one or more" in open-ended claims containing the transitional term "comprising"). So even if we were to assume that Muller routes packets to multiple NICs (a finding that has not been made on this record in any event), the scope and breadth of claim 1 reciting routing all protocol data units to "a" first congestible node does not preclude routing those units to additional nodes.

We are therefore not persuaded that the Examiner erred in rejecting representative claim 1, and claims 2, 4-6, and 8-10 not separately argued with particularity.

THE OBVIOUSNESS REJECTION OVER MULLER, ERIMLI, YU, AND BARKER

We also sustain the Examiner's obviousness rejection of claims 3 and 7. Ans. 9. Appellants have not particularly pointed out errors in the Examiner's reasoning to overcome the Examiner's conclusion of obviousness for these claims, but rather indicate that Yu fails to cure the independent claims' deficiencies. Br. 16. We are not persuaded by these

arguments, however, for the reasons previously discussed. The rejection is therefore sustained.

CONCLUSION

The Examiner did not err in rejecting claims 1-10 under § 103.

ORDER

The Examiner's decision rejecting claims 1-10 is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

llw